METHOD AND APPARATUS FOR SOLVING CONCISELY EXPRESSED COMBINATORIAL AUCTION PROBLEMS

ABSTRACT OF THE DISCLOSURE

A method for enabling optimizing software to determine an optimal allocation in a combinatorial auction includes (a) receiving a plurality of bids each of which includes a plurality of sub bids, wherein each sub bid is comprised of one of (1) one good and an associated price and (2) a logical operator logically connecting at least two child sub bids and a price associated with the logical operator; (b) defining an objective for the plurality of bids; (c) defining for each bid a plurality of mathematical relationships without logical operators that collectively represent the bid; and (d) causing the optimizing software to process the received bids to achieve the objective subject to the mathematical relationships. The method can be embodied in instructions stored on a computer-readable medium. When executed by a processor, the instructions can cause the processor to perform the method.